

February 24, 2014

Mr. Yoshiki Ogata, General Manager  
APWR Promoting Department  
Mitsubishi Heavy Industries, Ltd.  
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Tokyo, 108-8215 Japan

SUBJECT: UNITED STATES - ADVANCED PRESSURIZED WATER REACTOR REVISED FINAL TOPICAL REPORT SAFETY EVALUATION FOR TOPICAL REPORTS MUAP-07011-P, "LARGE BREAK LOCA CODE APPLICABILITY REPORT FOR US-APWR," REVISION 4; AND MUAP-07013-P, "SMALL BREAK LOCA METHODOLOGY FOR US-APWR," REVISION 3

Dear Mr. Ogata:

The U.S. Nuclear Regulatory Commission (NRC) staff issued final Topical Report Safety Evaluations (TRSEs) for Topical Reports MUAP-07011-P, "Large Break LOCA Code Applicability Report for US-APWR," Revision 3; and MUAP-07013-P, "Small Break LOCA Methodology for US-APWR," Revision 2 on May 14, 2013. This action was supported by Advisory Committee on Reactor Safeguards (ACRS) letter dated April 29, 2013 (Agencywide Documents Access and Management System (ADAMS) accession number ML13105A219), whereby the ACRS agrees with the NRC staff's conclusions, within the limits and conditions that are specified in the TRSE.

Both topical reports describe the codes and methods (calculation framework) used to calculate the emergency core cooling acceptance parameters given in Title 10 of the *Code of Federal Regulations* Section 50.46, "Acceptance criteria for emergency core cooling systems for light-water nuclear power reactors." The final comparison of the calculated and acceptance criteria values is given in the United States - Advanced Pressurized Water Reactor, Design Certification Document (DCD), Section 15.6.5, "Loss-of-Coolant Accidents Resulting from Spectrum of Postulated Piping Breaks within the Reactor Coolant Pressure Boundary."

Consistent with conclusions made in the February 5, 2014, final TRSE for Topical Report MUAP-07001-P, "The Advanced Accumulator," Revision 5, the staff's larger scaling biases are applied to the DCD Section 15.6.5 loss of coolant (LOCAs) analyzes. This is supported by the ACRS in a letter dated January, 6, 2014, (ADAMS accession number ML13352A413), Mitsubishi Heavy Industries, Ltd. (MHI) has agreed to the staff's (larger) scaling biases (large and small flow rates) and has since issued MUAP-07011, Revision 4 on December 4, 2013, and MUAP-07013, Revision 3 on December 5, 2013, to reflect these conclusions.

The changes reflected in MUAP-07011, Revision 4 and MUAP-07013, Revision 3 are editorial in nature as no changes to the calculation framework presented in MUAP-07011, Revision 3 and MUAP-07013, Revision 2 were necessary because the scaling biases are model inputs. The effects of the revised scaling biases will be reflected in a revision to the Tier 2, DCD Section 15.6.5 LOCA analyses results. Therefore, the staff's enclosed TRSEs, associated with

Y. Ogata

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MUAP-07011, Revision 3 and MUAP-07013, Revision 2, also apply to MUAP-07011, Revision 4 and MUAP-07013, Revision 3 unchanged from their May 14, 2013, issuance.

The staff requests that MHI publish the accepted proprietary and non-proprietary versions of MUAP-07011, Revision 4 and MUAP-07013, Revision 3 within one month of receipt of this letter. The accepted versions shall incorporate this letter and the enclosed final TRSEs after the title page. Also, they must contain historical review information, including NRC requests for additional information and your responses. The accepted versions of the topical reports shall include an "-A" (designated accepted) following the report identification number.

If the NRC's criteria or regulations change, so that its conclusion that the accepted topical report is invalidated, MHI and/or the applicant referencing the topical report will be expected to revise and resubmit its respective documentation, or submit justification for continued applicability of the topical report without revision of the respective documentation.

If you have any questions or comments concerning this matter, I can be reached at (301) 415-1383 or via e-mail address at [Perry.Buckberg@nrc.gov](mailto:Perry.Buckberg@nrc.gov).

Sincerely,

*/RA/*

Perry Buckberg, Senior Project Manager  
Licensing Branch 2  
Division of New Reactor Licensing  
Office of New Reactors

Docket No. 52-021

Enclosures:  
As stated

cc: See next page

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